



# Further Maths

## Why study Further Maths?

Further Maths will deepen your enjoyment of Maths by discovering surprising links across the worlds of algebra, calculus, mechanics and algorithms. You will extend your Maths skills to a sophisticated level. You will equip yourself for university courses across a wide selection of subjects.

## What skills will I gain from studying Further Maths?

Your mathematical skills will enable you to solve a wide range of problems in a huge variety of contexts. Your ability to link ideas together across the subject will be strengthened. You will develop your confidence to tackle unfamiliar problems.

## Having studied Further Maths what opportunities will be open to me?

University courses with a mathematical content at prestigious institutions. You will also have opportunities in the world of finance, risk management, engineering and more. This will also include research and development in the world of STEM.

## Entry requirements

Grade 9 in GCSE Maths (consideration will be given to students with a strong grade 8 and advocacy of their GCSE Maths teacher, for external students this will be discussed with Head of Department)

**Exam Board** – Edexcel                      Specification code/no. - 9FM0

## Topics covered in Year 12

- Proof
- Complex numbers
- Matrices
- Further algebra and functions
- Further vectors
- Further calculus
- Algorithms
- Graph theory
- Critical Path Analysis
- Linear programming

## Topics covered in Year 13

- Polar coordinates
- Hyperbolic functions
- MacLaurin series
- Differential equations
- Momentum and impulse
- Work, energy and power
- Elastic strings and springs
- Collisions